COMMISSION ACTION

NCPC File Nos. 0349/3083

WOODROW WILSON BRIDGE REPLACEMENT
INSTALLATION OF NOISE BARRIER
PRELIMINARY AND FINAL SITE DEVELOPMENT PLANS
City of Alexandria, Virginia

Submission by the Federal Highway Administration

April 3, 2003

Commission Action Requested by Applicant

Approval of preliminary and final site development plans pursuant to Section 5 of the National Capital Planning Act (40 U.S.C.§ 8722(b)(1)).

Commission Action

The Commission:

- Approves the preliminary and final site development plans for the Woodrow Wilson Bridge noise barrier, as shown on NCPC Map File No. 2510(05.17)-41155; and

- Requests that the Federal Highway Administration, in the preparation of subsequent plan submissions for ancillary elements of the replacement bridge project, provide information on the design of Jones Point Park and Potomac River Waterfront Community Park, including structures, visual graphics and signage to be utilized at both locations, and that the proposed development at the two remaining amenity areas maintain a high standard of design for all light fixtures, site furniture, pavements and structures.

_____
Deborah B. Young
Secretary to the National Capital Planning Commission

STAFF RECOMMENDATION

NCPC File No. 0349/3083

WOODROW WILSON BRIDGE REPLACEMENT
INSTALLATION OF NOISE BARRIER
City of Alexandria, Virginia

Submission by the Federal Highway Administration

March 27, 2003

Abstract

The Federal Highway Administration (FHWA) has requested that the Commission review the preliminary and final site development plans of a noise barrier at the west end of the Woodrow Wilson Replacement Bridge that affects the final bridge design plans previously approved by the Commission. The review and approval of preliminary and final site development plans for the noise barrier will enable the FHWA to proceed with work to construct this element of the replacement bridge. The current schedule calls for the outer loop of the new bridge to be completed by mid-year 2006. Final design of the noise barrier affects only the Virginia abutment and deck area of the bridge. The noise barrier design, as proposed, maintains the grace of the bridge deck appropriate to this memorial bridge.

Commission Action Requested by Applicant

Approval of preliminary and final site development plans pursuant to Section 5 of the National Capital Planning Act (40 U.S.C.§ 8722(b)(1)).

Executive Director's Recommendation

The Commission:

- **Approves** the preliminary and final site development plans for the Woodrow Wilson Bridge noise barrier, as shown on NCPC Map File No. 2510(05.17)-41155; and

- **Requests** that the FHWA, in the preparation of subsequent plan submissions for ancillary elements of the replacement bridge project, provide information on the design of Jones Point Park and Potomac River Waterfront Community Park, including structures, visual graphics and signage to be utilized at both locations, and that the proposed development at the two remaining amenity areas maintain a high standard of design for all light fixtures, site furniture, pavements and structures.

* * *

BACKGROUND AND STAFF EVALUATION

DESCRIPTION OF PROPOSAL

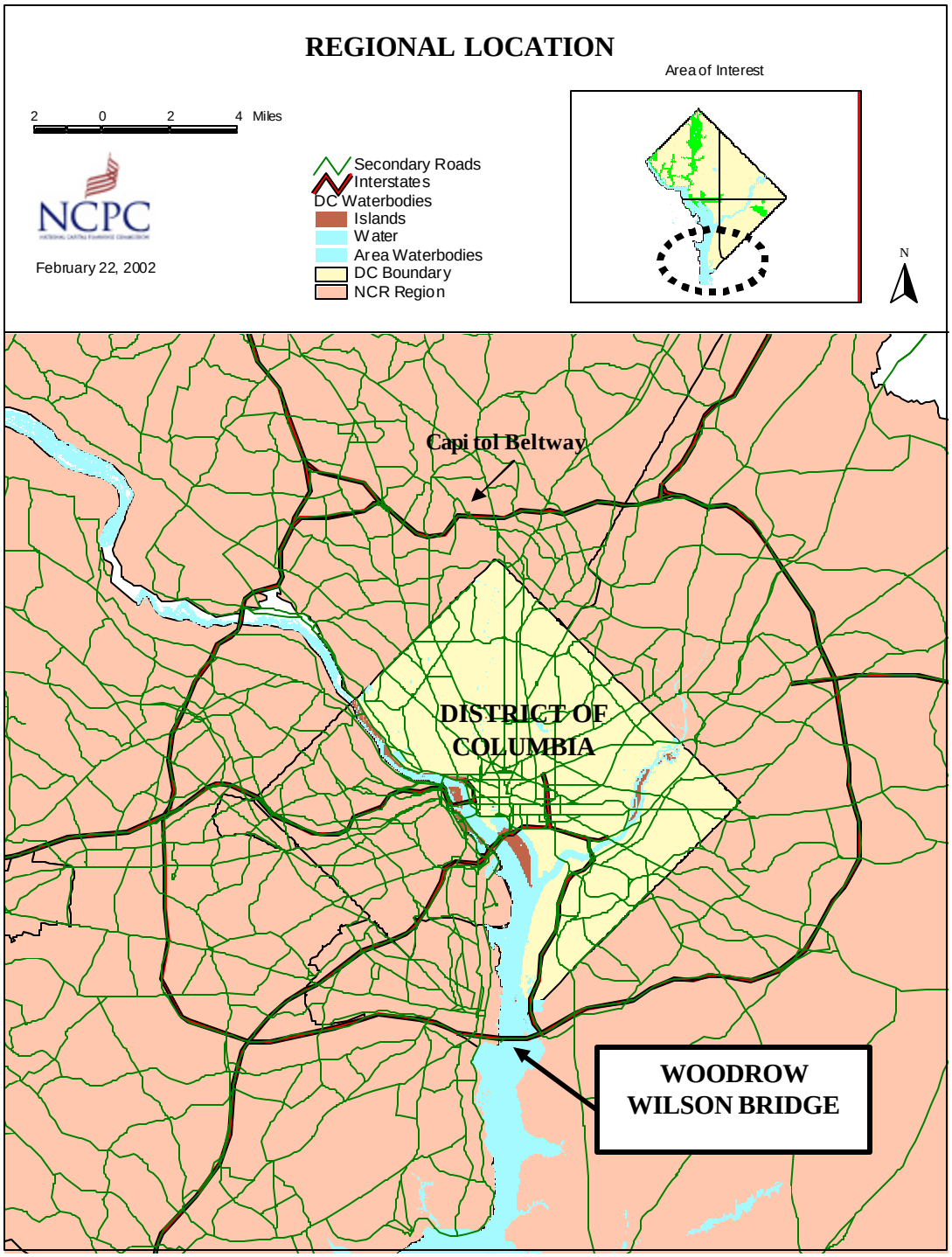
The Federal Highway Administration (FHWA) has submitted preliminary and final design plans for the construction of a noise barrier on the north side (inner loop) of the Replacement Bridge (Wilson Bridge) at the Virginia abutment and bridge deck. The Wilson Bridge carries Interstate 95/Interstate 495, the Capital Beltway, across the Potomac River. The bridge replacement and related highway improvements extend from Telegraph Road on the west to Maryland Route 210 (Indian Head Highway) on the east. The new bridge will be 6,075 feet long and consist of twin parallel structures, one measuring 124 feet wide and the other measuring 110 feet wide.

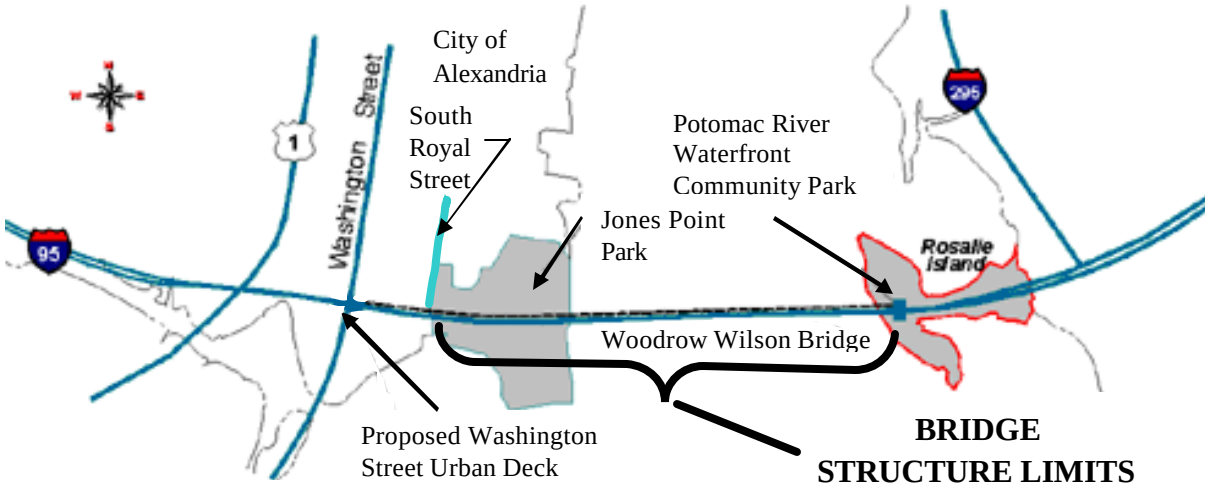
Originally constructed as a national memorial bridge to former President Woodrow Wilson, our 28th President, the current six-lane bridge was opened to traffic in 1964.

According to revised project scheduling, construction of the new bridge will occur in stages, with the most immediate being:

- Start of the construction access, dredging, and foundations in the Potomac River—in fall 2000. This work was completed ahead of schedule and under budget.
- Begin the construction of the Woodrow Wilson Bridge (outer loop) superstructure—by early 2003. This work is underway, along with the approach ramps toward the bridge in Virginia and demolition of existing buildings within the acquired right-of-way.

The current submitted plans are a portion of the next bid package to follow. FHWA's submission involves the preliminary and final plans for a 20-foot tall noise barrier to be located on the bridge structure at the north side of the Virginia bridge abutment and out onto the bridge deck for approximately 1550 feet. By mid-April 2003, the FHWA expects to award contracts related to construction of the new bridge at this location.


REGIONAL LOCATION
Area of Interest
2 0 2 4 Miles
NCPC
February 22, 2002
Secondary Roads
Interstates
DC Waterbodies
Islands
Water
Area Waterbodies
DC Boundary
NCR Region
N
Capitol Beltway
DISTRICT OF COLUMBIA
WOODROW WILSON BRIDGE



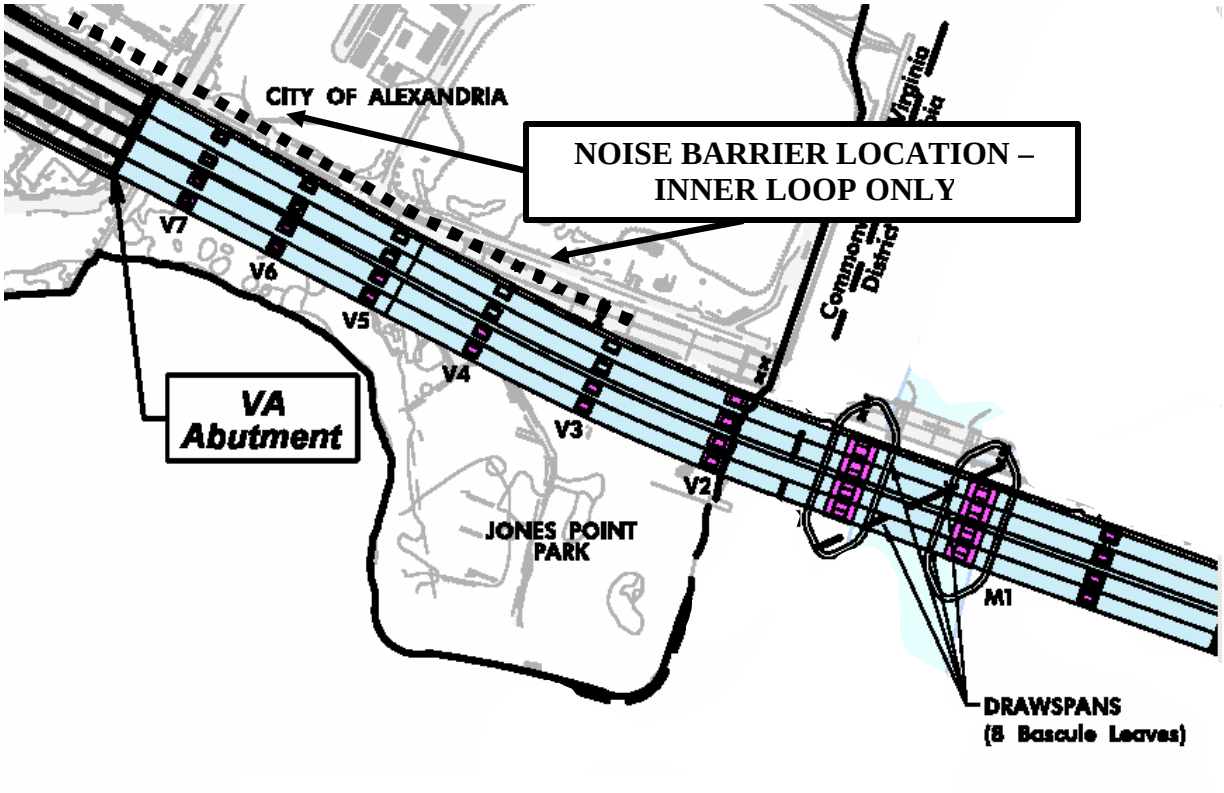
GENERAL PLAN OF WOODROW WILSON BRIDGE AND ASSOCIATED PROJECT ELEMENTS

The proposed noise barrier is unique in its location and appearance and involves:

- Construction of approximately 16-foot tall metal posts, about eight feet on center, for a length of 1550 feet east onto the elevated portion of the bridge deck.
- Installation of the noise abatement panels, to be located between the metal posts, consisting of a transparent material called Paraglas that is 1½ inches in thickness and eight feet in height. The acrylic product is UV-stabilized to eliminate the yellowing effect from exposure to the sun that has occurred to other products made of transparent polycarbonates. The result is a distortion-free, transparent material.
- Installation of the post and panel assembly atop the vehicle barrier wall that separates the outside vehicle lane of the inner loop from the pedestrian walkway (see section at page 6).

The height of the barrier is consistent throughout its extent, thereby providing a symmetrical and balanced merge of the noise panels into the currently planned noise walls located at the Washington Street Urban Deck. The aesthetic program for the design of the panel structure system is governed by its size, installation technique, and the structural integrity of the bridge deck that extends north, which is cantilevered from the last outboard girder. The noise barrier would mitigate traffic noise effects associated with the bridge on 39 impacted properties plus 12 potentially adversely affected public areas. The Virginia Department of

Transportation (VDOT) fully supports this design of the noise barrier at the bridge deck and is funding its implementation.



VIRGINIA ABUTMENT LOCATION

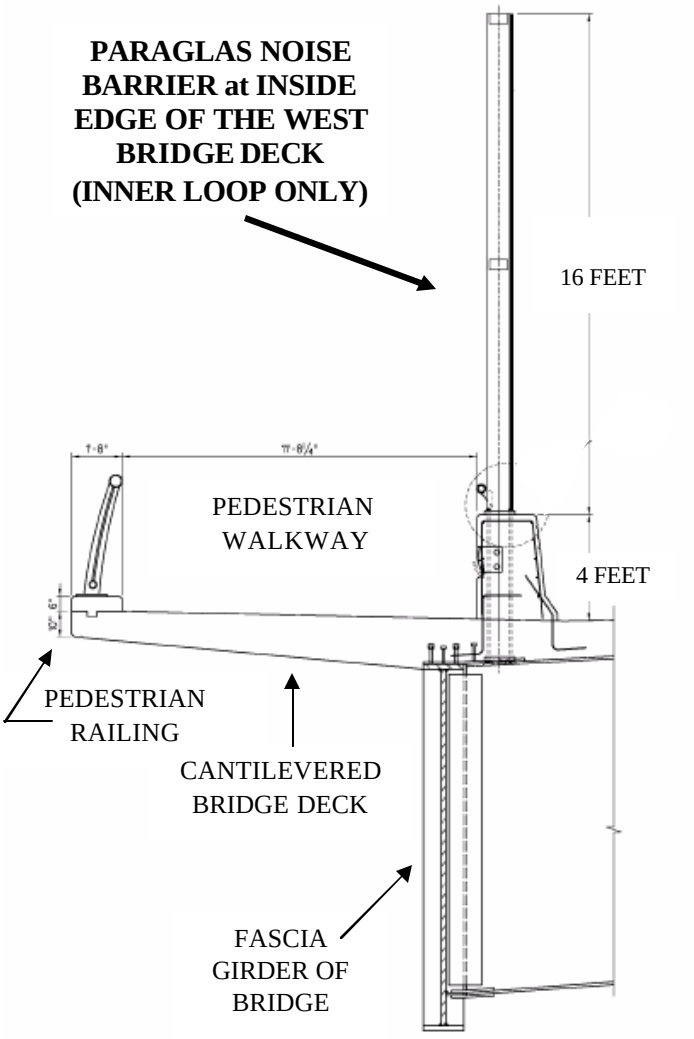
As previously approved by the Commission, all signs and railings on the bridge are a consistent height. The result is a coherent horizontal and vertical vocabulary of support structures, with predominant curved edges appearing at the profile end.

The proposed noise barrier features themes of this vocabulary using:

- A consistent height
- Symmetrical geometry to provide uniformity and a narrow profile

The final design of the noise barrier involves the following:

- Each space between the posts is comprised of two equal Paraglas panels separated by a horizontal support.
- The location of the barrier to the inside of the pedestrian walkway lowers the side elevation view of the barrier as seen from nearby locations below the bridge.
- The finish of the metal posts of the barrier is the same charcoal gray that is being used on the railings, light poles and sign structures.
- The Paraglas noise barrier panel is a colorless transparent acrylic sheet, which incorporates a polyamide filament. The imbedded filaments are black in color and are less then one tenth of an inch thick and are spaced at approximately 1.18 inches (30mm) on center. The filaments will hold the acrylic sheet together in the event that the panel is struck, eliminating the potential of injury from the panel shattering onto the proposed pedestrian walkway. The production process for the panels produces an acrylic that has a smooth surface, which is retained even after long-term outdoor exposure.



PROPOSED NOISE BARRIER SECTION

- The location of the noise barrier provides a noise reduction of between four to seven decibels, to at or slightly below existing noise levels, for the year 2020 traffic volume on the bridge.

The final site development plan submission consists of:

- The final design for the noise barrier atop the vehicle barrier wall which will support the noise barrier onto the bridge deck.

- The redesign of the end transition of the landside noise barrier wall at Washington Street.
- All final detailing of the support wall of the noise barrier as it appears adjacent to the pedestrian walkway.

The submitted plans do not include final project drawings for Jones Point Park in Virginia or the Potomac River Waterfront Community Park at Rosalie Island in Maryland. These project elements, which are affected by the design and construction of the Woodrow Wilson Bridge Replacement, will be submitted individually as their final details are completed in the future.

SIMMULATED VIEW OF PARAGLAS NOISE BARRIER AT TRANSISTION INTO RE-DESIGNED LANDSIDE NOISE WALLS AT THE BRIDGE ABUTMENT

PREVIOUS COMMISSION ACTION

The Commission has reviewed the Woodrow Wilson Bridge Replacement project at several stages. These actions included the following reviews at the date specified.

April 8 1999: The Commission approved design concepts for the replacement Woodrow Wilson Bridge project.

August 3, 2000: The Commission approved preliminary site and building plans and final foundation and Phase I dredging plans for the Woodrow Wilson Bridge Replacement.

March 1, 2001: The Commission approved preliminary site and building plans for the urban deck overpass at Washington Street; improvements to Jones Point Park in Alexandria, VA; and development of the new Potomac River Waterfront Community Park at Rosalie Island in Prince George's County, Maryland. Elements excepted from this approval were the gateway sentinel elements at Potomac River Waterfront Community Park, which were understood to have been deleted from the project; and the restroom/maintenance buildings at Jones Point Park and Potomac River Waterfront Community Park, which were approved in concept only.

August 2, 2001: The Commission approved final building plans for the Woodrow Wilson Bridge Replacement.

November 1, 2001: The Commission approved revised preliminary and final site and building plans for the urban deck overpass at Washington Street in Alexandria, Virginia.

SIMMULATED VIEW OF PARAGLAS NOISE BARRIER AS VIEWED LOOKING WEST FROM TRAFFIC LANES OF THE INNER LOOP BRIDGE SPAN

April 4, 2002: The Commission approved the preliminary and final site development plans for the Woodrow Wilson Bridge Memorial Medallions, as shown on NCPC Map File No. 3206.00(38.00)-41000.

CONSULTATION

FHWA and its consultants have coordinated the submitted final site development plans for the noise barrier with local jurisdictional governments and state agencies. The FHWA continued its coordination efforts with the various stakeholder advisory subcommittees, which provided valued input into the noise barrier location process. Additionally, in early September 2002 and mid December 2002, FHWA and their consultants met with NCPC staff to review information on the various alternative designs being considered for some form of noise barrier at the inner loop of the Wilson Bridge.

The Mayor of the City of Alexandria strongly supports the design of the proposed noise barrier and provided a comment letter reflecting that position to the Chairman of the Commission (see attached).

EVALUATION

The staff recommends approval of the preliminary and final site development plans for the noise barrier. FHWA's efforts have resulted in a coordinated physical feature that merges with other landside project noise walls in a seamless fashion. The plans and construction materials are of the highest quality and the architectural detailing contributes to the monumental character of the bridge. The design successfully balances the bridge's monumental aspirations by incorporating features of the bridge (color and material) into the vocabulary of the barrier. Additionally, because of its transparency, the barrier maintains visual openness for views from the bridge, while minimizing the massing form of the barrier. The barrier's vertical proportion is highlighted by its clean geometry but does not compete with the bridge itself. And while the staff would prefer that a noise barrier on the bridge were not necessary, it is evident that the noise mitigation action is effective and that the visual impact of the barrier is minimal because of its transparent nature.

CONFORMANCE

National Historic Preservation Act

A Memorandum of Agreement (MOA) for the proposed Woodrow Wilson Bridge Replacement was signed in October and November of 1997. The signatories were FHWA (the lead agency), NPS, the Advisory Council on Historic Preservation, and the State Historic Preservation Offices for Virginia, Maryland, and the District of Columbia. The signatories and other parties are continuing to consult on specific aspects of the project as they are developed. The City of Alexandria and the Maryland-National Capital Park and Planning Commission (M-NCPPC) are continuing to participate in the review of the project, including those aspects pursuant to the MOA.

National Environmental Policy Act

Pursuant to the regulations implementing the National Environmental Policy Act (NEPA), the FHWA prepared a Final Supplemental Environmental Impact Statement (FSEIS) and Record of Decision for the Woodrow Wilson Bridge project. These documents were prepared in April and June 2000, respectively.

On June 16, 2000, NCPC issued its own FEIS that adopted the FHWA FSEIS relating to NCPC's authority for review and approval of the bridge project. The FEIS was available to the public for review more than thirty days before Commission action.

The submitted preliminary and final noise barrier plans are in conformance with all decisions arrived at and documented in the NEPA process.

Federal Capital Improvements Program

The Woodrow Wilson Bridge Replacement project is included in the Federal Capital Improvements Program Fiscal Years 2002 – 2007, adopted by the Commission on July 3, 2001. The total project cost in the currently identified program is $2 billion.

Comprehensive Plan

The proposed location of the noise barrier onto the replacement bridge would have no affect on the Potomac shoreline. The feature would be difficult to see because of its limited height and the obstruction provided by Jones Point Park trees. A policy contained in the Parks, Open Space and Natural Features Element apply to shoreline protection and state:

- Natural shoreline areas in the National Capital Open Space System should be retained in their natural condition, minimally impacted, or be appropriately landscaped for a distance of 150 to 200 feet from the water's edge, if possible.

Additional polices pertaining to the noise barrier project and the protection and enhancement of Gateways also apply:

- Visitors and residents within the Region who enter the Nation's Capital by ground transportation should have the sensation of entering a special place. The major approaches should be dramatic in appearance, but pleasant and functional, with a strong sense of arrival. Gateway corridors (both land and water), and terminals should be protected from unattractive development and designed and maintained in a manner consistent with their special role.
- New bridge structures should be designed to retain the natural continuity of waterways, shorelines, and valleys. Wherever possible, bridges and their approaches should enhance the sense of arrival (gateway) or transitional qualities inherent in river crossings.

All aspects of the preliminary and final site development plans for the Woodrow Wilson Bridge noise barrier demonstrate consistency with the above policies of the Comprehensive Plan for the National Capital.

SIMMULATED VIEW OF PARAGLAS NOISE BARRIER AS VIEWED NEAR JONES POINT PARK AT LEE STREET